

WHAT IS CLAIMED IS:

1. A community network system with broadband integrated services which is
5 composed of satellite digital television receiver servers, community video servers,
video conference servers, network accounting servers, network management
servers, Gigabit Ethernet Switches, Fast Ethernet switches, home gateways, digital
television sets, analogue television sets, computers, IP telephones, wireless
gateways, wireless IP mobile phones and PCs with a wireless interface, and which
10 is characterized in that the backbone Gigabit Ethernet Switch of the system is
connected to other Gigabit Ethernet Switches via a 1000 Mbps port, and is
connected to the satellite digital television receiver server, the video server, the
video conference server, the network accounting server, and the network
management server via a 1000 Mbps port or a 100 Mbps port; the Gigabit Ethernet
15 Switches are connected to a plurality of Fast Ethernet switches via a 100 Mbps port;
the Fast Ethernet switches are connected to a plurality of home gateways and
wireless gateways via 10/100Mbps compatible ports; the home gateways are
connected to the digital television, the analogue television, and the computer; the
IP telephone is connected between the Fast Ethernet switch and the home
20 gateway or between the home gateway and the computer; the wireless gateways
are connected to the wireless IP mobile phone and the PC with a wireless interface
via a radio link; the video server is connected to a video storage; the satellite digital
television receiver server is connected to an outdoor antenna for receiving satellite
data signals; the backbone Gigabit Ethernet Switch is also connected with a
25 metropolitan area network via a 1000 Mbps port; and software system.

2. The system according to Claim 1, wherein the satellite digital television receiver
server is an industrial PC with digital television receiver card which is connected to
an outdoor antenna; the video server may be one or more PC servers with disk
30 array; the video conference server is composed of a PC, a video capture card, a
camera, and a microphone; a PC functions as the network management server; a
PC functions as the network accounting server; according to the configuration, the

Gigabit Ethernet Switch can provide 1 to 6 1000Mbps ports or 8 to 48 100 Mbps ports; one 1000Mbps interface module is exchangeable with eight 100Mbps interface modules; the Fast Ethernet switch provides 16 to 32 10/100Mbps compatible ports; the home gateway provides two or more 10Mbps or 10/100Mbps ports, in which one port is connected to one Fast Ethernet switch, and the other ports are connected to the IP telephone, the home computer or other devices; a 15D type VGA interface, an S-Video interface, a composite video interface, a right sound channel interface and a left sound channel interface are used to send audio/video signals to television sets and audio devices; an infrared link is between a remote control unit and a remote controller; the wireless gateway is connected to a plurality of mobile phones or mobile PCs wirelessly, and is connected to the Fast Ethernet switch or the Gigabit Ethernet Switch through one 10Mbps or 10/100Mbps port.

3. The system according to Claim 1, wherein the software system mainly includes embedded operation system, routing protocols, multicasting protocols, QoS protocols, SNMP protocols, digital television reception and demultiplexing, video on demand system, network management for an access network and network accounting.

20

4. The system according to Claim 1, wherein the system uses an asymmetric VLAN technique to achieve the separation of user information, and uses IP addresses and MAC addresses of devices in the home gateway as well as the VLAN numbers allocated in the system to validate the users' identities.

25

5. The system according to Claim 1, wherein there is no mosaic appearance in the digital television sets within 2 hours in average; the average duration of the mosaic appearance is no more than 0.5 second; the television channel switchover response is within 0.5 second, and the channel switchover is completed within 3 seconds; the VoD response is within 0.5 second, and the successful play begins within 3 seconds.

30

FP05008US

6. The system according to Claim 1, wherein the speed phase locking of the application layer is processed on the home gateway.

5

10

15

20

25